

Claims

1. Measuring device on at least one rail of a railway track for measuring the roundness of an individual railway vehicle wheel or the railway vehicle wheels of a set of wheels during running thereof on the rail as a difference of the circumferential radius of the wheel flange cap and the radius of the running surface of the railway vehicle wheel in a measuring plane, characterised in that the measuring device, within a measuring path (25) along the rail (4), consists of a plurality of individual measuring sensors (12), which respectively
 - have a lateral distance (33) from one another and
 - are connected to the rail (4) in the measuring plane (17) along the axis of rotation (6) of the railway vehicle wheel or the set of wheels and perpendicularly to the contact surface (10) of the respective railway vehicle wheel (1).
2. Measuring device according to claim 1, characterised in that the measuring path (25) is between one and two times the circumference of the running surface (2) of the railway vehicle wheel (1).
3. Measuring device according to claims 1 and 2, characterised in that, within the measuring path (25), at least one measuring sensor (12) contacts the circumference of the wheel flange cap (5).
4. Measuring device according to claim 3, characterised in that during a predetermined measuring time at least two adjacent measuring sensors (12) contact the circumference of the wheel flange cap (4) at the same time.

5. Measuring device according to any one of claims 1 to 4, characterised in that each measuring sensor (12) consists of the following elements:

- a base (16) that may be fastened to the rail (4),
- a measuring lever (13) comprising
- a feeler roller (14) at the outer end,
- a swivel joint (18) on the base (16) for the measuring lever (12),
- a return spring (19) between the feeler roller (12) and the swivel joint (18)
- and an angle sensor (20) in or on the swivel joint (18).

6. Measuring device according to claim 5, characterised in that a calibration stop is provided.

7. Measuring device according to any one of claims 1 to 6, characterised in that an evaluation device, to which each individual measuring sensor (12) may be connected, is provided.

8. Measuring device according to claim 7, characterised in that the evaluation device comprises subordinate means for determining

- the roundness (7) of the railway vehicle wheel (1) with precise values in the measuring points (23) of the sensors (12) and with tangents in the measuring points,
- the wheel diameter in the running tread of the running surface (2),
- the height of the wheel flange (5) in the contact surface (10) of the running surface (2) and
- the number, the position and respective depth of wheel flats (11) in the running surface (2).

9. Measuring device according to claim 8, characterised in that the evaluation device comprises a subordinate means for determining the transverse displacement (29) of the railway vehicle wheel (1) or the railway vehicle wheels (1) of a set of wheels on passing through (3) the measuring path (25).

10. Measuring device according to claim 8, characterised in that the evaluation device comprises a subordinate means that recursively corrects the diameter of the railway vehicle wheel (1) or the railway vehicle wheels (1) of a set of wheels with a measured deviation (7) from the roundness of the respective railway vehicle wheel (1).

11. Measuring device according to claim 5, characterised in that a dirt scraper is provided on the feeler roller (14).